

REMARKS

The Office Action mailed on June 03, 2004, and the references cited therein, have been carefully studied and, in view of the preceding amendments and following remarks, reconsideration and allowance of this application are most respectfully requested. Claims 26-38 are currently pending. The Examiner has rejected claims 26, 28, 29 and 33-38, and has objected to claims 27 and 30-32. Claim 26, 28 and 29 are amended herein. Applicants respectfully submit that the pending claims are in condition for allowance.

The specification was objected to for certain informalities. According to the Examiner's request, Applicants have updated the specification at page 14, lines 8-9 and at page 15, lines 18-19 to give the current status of the cited applications.

The Examiner has rejected claims 26, 28, 29, and 33-38 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,013,384 to Kido et al., and further in view of "Interface Engineering in Preparation of Organic Surface-emitting Diodes" by Hung et al., *Applied Physics Letters*, v. 74, n. 21, pp. 3209-3211 (May, 1999). It is respectfully submitted that these rejections should be withdrawn for at least the following reasons.

To render a claim obvious, the prior art must teach or suggest all of the claim limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Moreover, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the modification must be found in the prior art and not in the Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Applicants respectfully assert that the Examiner has failed to establish a *prima facie* case of obviousness. There is no teaching nor suggestion to combine the references as suggested by the Examiner. Such a combination is proper only if there is some objective teaching in the prior art to combine the relevant teachings of the references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). For prior art references to be combined to render obvious a subsequent invention under §103, there must be something in the prior art as a

whole which suggests the desirability, and thus the obviousness, of making the combination. Uniroyal v. Rudkin-Wiley, 5. U.S.P.Q.2d 1434, 1438 (Fed. Cir. 1988). Hindsight is strictly forbidden.

The references must be taken in their entireties, including those portions which argue against obviousness. Bausch & Lomb, Inc. v. Barnes-Hind Hydrocurve, Inc., 230 U.S.P.Q. 416, 420 (Fed. Cir. 1986). It is impermissible within the framework of § 103 to pick and choose from a reference only so much of it as will support a conclusion of obviousness, to the exclusion of other parts necessary to a full appreciation of what the reference fairly suggests to one skilled in the art. Id. at 419. The courts have long cautioned that consideration must be given "where the references diverge and teach away from the claimed invention." Akzo N.V. v. International Trade Commission, 1 U.S.P.Q. 1241, 1246 (Fed. Cir. 1986).

Kido et al. does not teach or suggest a method for fabricating a *highly transparent* organic light emitting device having a *transparent, non-metallic*, electron injecting cathode layer, as is required by the pending claims. Rather the devices of Kido et al. have a non-transparent metal cathode layer. In the methods and resulting devices of Kido et al., the cathode is composed of a layer of aluminum, or other low-cost metal. According to Kido et al.,

[a]nother object of the present invention is to provide a device (organic electroluminescent device) capable of indicating satisfactory characteristics which are similar to or higher than those obtained using the above-described alloy as the electrode material, when aluminum or other low-cost and stable metals which are conventionally used as the wiring material in the prior art are used alone as the cathode material.

Kido et al., Col. 2, lines 33-40. Further, the Examples set forth by Kido et al. each employ an aluminum cathode having a thickness of about 1000Å. Thus, Kido is clearly directed to devices having a metal cathode layer. The metal cathodes of Kido et al. are distinguished from the presently claimed invention, which requires a *transparent, non-metallic*, electron injecting cathode layer.

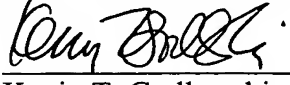
Hung et al. is cited by the Examiner as disclosing transparent ITO, and further disclosing "an ultra-thin layer of Li deposited on the electron injection (CuPc) layer followed

by sputter deposition of ITO." However, Hung et al. does not teach or suggest an organic light emitting device comprising a transparent electron injection layer, wherein said transparent electron injection layer is a material selected from the group consisting of a material which acts as a hole blocking layer, a material which acts as an exciton blocking material and a material which acts as a combination hole and exciton blocking material. Hung et al. does not teach or suggest a transparent electron injection layer composed of a material which acts as a hole blocking layer, a material which acts as an exciton blocking material, nor a material which acts as a combination hole and exciton blocking material.

The Examiner states that "it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute transparent ITO for electron injecting layer of Kido as taught by Hung et al." However, Applicants respectfully submit that the references cited by the Examiner lack the requisite motivation to combine that is needed to satisfy a case of *prima facie* obviousness. There is no teaching or suggestion in either Kido et al. or in Hung et al. that the substitution suggested by the Examiner should be made or that it would be advantageous. Further, Kido et al. teach away from replacing the metal cathode disclosed therein with a non-metallic cathode as suggested by the Examiner. Kido et al. is specifically directed to devices that utilize a stable metal cathode in which "aluminum or other low-cost and stable metals which are conventionally used as the wiring material in the prior art are used alone as the cathode material." Thus, Applicants submit that the presently claimed invention is patentable over Kido et al. and Hung et al.

In view of the foregoing, it is respectfully submitted that the objections have been obviated and the pending claims are in condition for allowance. If there are any questions relating to the instant application, the Examiner is respectfully requested to telephone the undersigned attorney.

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